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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,148	01/14/2004	Nian Yang	AMD-AF01214	4639

7590 06/10/2005  
WAGNER, MURABITO & HAO LLP  
Third Floor  
Two North Market Street  
San Jose, CA 95113

EXAMINER

PHAM, LONG

ART UNIT PAPER NUMBER

2814

DATE MAILED: 06/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/758,148

Applicant(s)

YANG ET AL.

Examiner

Long Pham

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>04/28/05</u> . | 6) <input type="checkbox"/> Other: ____  |

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election without traverse of claims 1-9 in the reply filed on 05/06/05 is acknowledged.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 2 recites the limitation "said active component" in line 2. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, 7, 8, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Kloen et al (WO 00/35013).

With respect to claim 1, Kloen et al. teach a semiconductor structure comprising:

a pad area 3; and

an active device of said semiconductor structure disposed below said pad area. See fig.2 and associated text.

With respect to claim 2, Kloen et al. further teach active device comprises a transistor.

With respect to claim 7, Kloen et al. further teach a substrate 6, a first layer of metal 16 disposed above said substrate wherein said active device is disposed below said first layer of metal, and a second layer of metal 19 disposed above said first layer of metal. See fig. 2 and associated text.

With respect to claim 8, Kloen et al further teach a layer of dielectric 17 disposed between said first metal layer and said second metal layer and a via disposed within said dielectric layer wherein said via electrically couples said first and second metal layer. See fig. 2 and associated text.

With respect to claim 9, Kloen et al. further teach a subsequent layer 18 of metal between said first and second metal layers. See fig. 2 and associated text.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3, 4, 5, 6, 10, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kloen et al (WO 00/35013).

With respect to claims 3 and 4, Kloen et al. further teach that the active device is a plurality of MOS devices but fail to teach that the active device is a memory device (which inherently performs logic or memory function).

However, It would have been obvious to one of ordinary skill in the art of making semiconductor devices to include memory or logic devices in the active

region in the device of Kloen et al. to obtain a memory system with reduced complexity. See page 3, lines 1-2.

With respect to claims 5 and 6, Kloen et al. further teach a non-pad area (areas not covered by the pad 3) bounded at least in part by said pad area but fail to teach forming a memory device in the non-pad area.

However, It would have been obvious to one of ordinary skill in the art of making semiconductor devices to include memory or logic devices in the active area not covered by the pad to obtain a memory system with reduced complexity. See page 3, lines 1-2.

With respect to claim 10, Kloen et al. further teach a pad apparatus for a semiconductor structure comprising:

- a substrate 6;

- a first layer 16 of metal disposed above said substrate;

- a second layer 19 of metal disposed above said first layer of metal; and

Kloen et al. fail to teach an active component is formed within the substrate.

However, the formation of an active component within a substrate is well-known in the semiconductor art.

With respect to claim 11, Kloen et al. further teach a layer of dielectric 17 disposed between said first and said second metal layer and a via disposed within dielectric layer wherein said via electrically couples said first and said second metal layer.

With respect to claim 12, Kloen et al. further teach a subsequent layer 18 of metal between said first and second metal layers.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Long Pham whose telephone number is 571-272-1714. The examiner can normally be reached on M-F, 7:30AM-3:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on 571-272-1705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Long Pham

Primary Examiner

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LP